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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/510,554 | 10/07/2004 | Hans Paul Hopper | 1600-10800 | 9298 |
| 23505 | 7590 | 06/04/2007 | | |
| CONLEY ROSE, P.C. David A. Rose P. O. BOX 3267 HOUSTON, TX 77253-3267 | | | EXAMINER REIFSNYDER, DAVID A | |
| | | | ART UNIT 1723 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---|--|--|
| Office Action Summary | Application No. 10/510,554 | Applicant(s) HOPPER, HANS PAUL | |
| | Examiner David A. Reifsnnyder | Art Unit 1723 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1; it is vague and indefinite as to whether the “plurality of outlets” are the same outlets or different from the outlets on the “main tubular bore”. Furthermore, it is vague and indefinite as to how the “inlet” is structurally related to the “main tubular bore”. In addition, if the outlets on the “main tubular bore” are different from the “plurality of outlets”, it is vague and indefinite as to how the “plurality of outlets” are structurally related to the “main tubular bore”. In addition, claim 1 claims that a “multiphase flow” is separated into “selected separated phases” and also claims that the “multiphase flow” is separated into “lighter and heavier fluids”; therefore, it is vague and indefinite as to what exactly is a “selected separated phase” and whether the “selected separated phases” are the same or different from the “lighter and heavier fluids”. Lastly, because of these 35 USC 112 2nd paragraph issues it is extremely difficult to determine what the applicant intends to claim in claims 1-19.

Regarding claim 7; the recitation of a “second additional tubular bore” is vague and indefinite because a first additional tubular bore” was never claimed.

Regarding claim 9; the recitation of "the conduit(s)" is vague and indefinite and in the case of conduits lacks antecedent basis because the claim 9 claims "a spiral conduit". Also, the recitation of "the desired phases" lacks antecedent basis. Furthermore, it can not be understood as to how "a spiral conduit" (i.e. one conduit) can be connected to more than one outlet. In addition, the recitation of "the outlets" can not be understood because claim 1 claims "a plurality of outlets" and a "main annular tubular bore having an outlet for each of the lighter and heavier fluids" (i.e the main annular tubular bore has at least two outlets).

Regarding claim, 10; the recitation of "a parallel sided spiral coil" can not be understood. Furthermore, the recitations of "the same coil diameter" and "the spiral coil above" both lack antecedent basis.

Regarding claim 11; the recitation of "each conduit" does not make sense because claim 10 only claims "a spiral conduit" (i.e. one conduit). In addition, the recitation of "such that the diameters of consecutive loops of the conduit or reduced" can not be understood because it was never claimed that "the conduit" (i.e. the spiral conduit) had loops.

Regarding claim 13; the recitations of "the angle", "the slope", " the pipework" "the coil", "the annular bores" all lack antecedent basis.

Regarding claim 14; the recitation of "the spiral" lacks antecedent basis and can not be understood. Furthermore, it is vague and indefinite as to how "a spiral" (i.e. a spiral conduit) can have more than one outlet.

Regarding claim 15; the recitation of "each conduit" does not make sense since claim 10 claims "a spiral conduit" (i.e. one conduit). Furthermore, the recitation of "one or more drain and/or vent conduits from each conduit into a tubular bore" is vague and indefinite as to whether the "drain and/or vent conduits" connects to or fluidly communicates with each conduit" and the tubular bore. In addition, the recitation of "tubular bore" is confusing since claim 1 claims "a main annular tubular bore".

Regarding claim 16; the recitation of "the required phase" lacks antecedent basis and does not make sense.

Regarding claim 17; it is vague and indefinite as to what part of the separator the "outlet for solid slurry" connects to or fluidly communicates with.

Regarding claim 18 the recitation of "the annular tubular bores" lacks antecedent basis.

Regarding claim 19; the recitation of "the inlet" lacks antecedent basis. Furthermore, it is vague and indefinite as to what part of the separator the "the inlet" connects to or fluidly communicates with, especially since claim 7 claims "**a second additional tubular bore located above and tangentially in fluid communication with the lighter fluid outlet**". Therefore, it is unclear as to whether the applicant is trying to claim that second additional bore has two tangential inlets.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Pribytkov who discloses a spiral separator for separating a multiphase fluid as shown in Figures 2, 3, 5, 10 and 11.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Robertson who discloses a spiral separator for separating a multiphase fluid as shown in Figures 1 and 2.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Al-Yazida who discloses a centrifugal spiral separator for separating a multiphase fluid as shown in Figures 1, 2, 4 and 5.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Page Jr who discloses a spiral centrifugal separator for separating a fluid mixture as shown in Figures 1 and 2.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunter who discloses a spiral centrifugal separator for separating a fluid mixture as shown in Figures 3-13.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Reifsnyder whose telephone number is (571) 272-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


David A Reifsnyder
Primary Examiner
Art Unit 1723

DAR